To: Burns, Francis[Burns.Fran@epa.gov]; Kelly, Jack (R3 Phila.)[Kelly.Jack@epa.gov]; Markiewicz, Karl[Markiewicz.Karl@epa.gov]; Helverson, Robert[Helverson.Robert@epa.gov]; binetti, victoria[binetti.victoria@epa.gov]; Arguto, William[Arguto.William@epa.gov]; Ferrell, Mark[Ferrell.Mark@epa.gov]; Smith, Bonnie[smith.bonnie@epa.gov]; Matlock, Dennis[Matlock.Dennis@epa.gov]; Linden, melissa[linden.melissa@epa.gov]; Wisniewski, Patti-Kay[Wisniewski.Patti-Kay@epa.gov]; Caporale, Cynthia[Caporale.Cynthia@epa.gov]; Jarvela, Steve[Jarvela.Stephen@epa.gov]; Casillas, Laura[Casillas.Laura@epa.gov]
From: Werner, Lora
Sent: Mon 3/17/2014 11:00:43 PM
Subject: Charleston Chemical Leak General Brief- Two Project Documents Released by WV TAP -lit review and odor threshold info

http://www.dhsem.wv.gov/WVTAP/News/Pages/Two-Project-Documents-Being-Released-by-the-WV-TAP-Project-Team.aspx
Two Project Documents Being Released by the WV TAP Project Team
3/17/2014

PROJECT CONTACTS:
Ex. 6 - Personal Privacy
University of South Alabama
Mobile, AL
Ex. 6 - Personal Privacy

Ex. 6 - Personal Privacy
Corona Environmental Consulting
Scituate, MA
Ex. 6 - Personal Privacy

On Monday March 17, the WV TAP project team will release two new documents online. These documents include a health effects literature review as well as a drinking water odor threshold testing report based on expert odor analysis panels. Both documents can be downloaded under the “Test Results” tab at http://www.wvtapprogram.com beginning the afternoon of Monday March 17, 2014.

Dr. Ex. 6 - Personal Privacy and Dr. Ex. 6 - Personal Privacy authors of these two reports, will be available to answer questions Tuesday March 18 at 12:00 PM EDT. A conference call-in telephone number will be setup for those organizations interested in participating. Questions about this March 18 event should be directed to Dr. Andrew Whelton at ajwhelton@southalabama.edu by Tuesday 10:00 AM EDT. Information will be sent to those organizations interested in participating.

A summary of major findings for each document are listed below.

Health Effects Literature Review
The title of the literature review is Health Effects for Chemicals in 2014 West Virginia Chemical Release: Crude MCHM Compounds, PPH and DiPPH.

The purpose of this literature review is to present a summary of toxicity information on the chemicals that were spilled into the Elk River in West Virginia in January 2014 from the Freedom Industries facility. This document will be considered by the WV TAP Expert Toxicology Panel.

The literature review was prepared by Professor Craig Adams of Utah State University. Assistance was provided by Dr. Andrew Whelton of the University of South Alabama,

and Jeffrey Rosen, President of Corona Environmental Consulting.

The document describes health effects data for individual constituents and mixtures based on (1) Eastman toxicology studies, (2) TOXNET sources, (3) EPA ACToR, (4) Freedom Industries "PPH Stripped MSDS, (5) Dow Chemical MSDS, and (6) other sources." The literature review presents the CDC calculations for drinking water advisory levels for MCHM and PPH of 1 mg/L (ppm) and 1.2 mg/L (ppm), respectively.

Odor Study Technical Memorandum

The title of the odor threshold testing result document is Technical Memorandum: Expert Panel Estimates of the Odor Threshold Concentration, Odor Recognition Concentration and Odor Objection Concentration for Crude methylcyclohexanemethanol in Water.

The purpose of this document is to present a summary of drinking water related odor findings to date, as several support activities remain in progress. Dr. Michael J. McGuire prepared the document and developed a methodology based on ASTM Method E679 to estimate the Odor Threshold Concentration (OTC), Odor Recognition Concentration (ORC) and Odor Objection Concentration (OOC) for Crude MCHM in water during a single expert odor panel session.

The odor threshold values reported are as follows:

Odor Threshold Concentration: 0.15 ppb
[The actual OTC for the experts is likely less than 0.15 ppb]
Odor Recognition Concentration: 2.2 ppb
[15 times greater than OTC]
Odor Objection Concentration based on degree of liking: 4.0 ppb
[27 times greater than OTC]
Odor Objection Concentration (OOC) based on complaint: 4.0 ppb
[27 times greater than OTC]

A major finding from this study is that the estimated OTC for the Expert Panel is in the realm of parts per trillion (ppt), a very low concentration. The ability of the expert human nose to detect this compound is far greater than any analytical method available today.

The estimated thresholds determined in the Expert Panel study support consumer observations in Charleston, West Virginia that people recognized and objected to the licorice odor caused by Crude MCHM in their drinking water even though the analytical reports were showing non-detect at a minimum reporting level of 10 ppb.ÿ